Introduction: looking beyond the walls

Book Section

Introduction: Looking Beyond the Walls

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In its consideration of the remarkable extent and variety of non-university researchers, this book takes a broader view of 'knowledge' and 'research' than in the many hot debates about today's knowledge society, 'learning age', or organisation of research. It goes beyond the commonly held image of 'knowledge' as something produced and owned by the full-time experts to take a look at those engaged in active knowledge building outside the university walls.

The on-going debates commonly take as their frame of reference the knowledge production and knowledge society of today. Here again this book looks more widely. As Manuel Castells rightly reminds us

> To label our society an information or knowledge society is a bit pretentious. Why? Because that would imply that in all other societies in human history, information and knowledge were not important. And I know no society in which information and knowledge have not been absolutely decisive in every aspect of society. (Castells 2004: 3)

The historical range here, limited as it is, can set present-day concerns into longer perspective and enlarge our appreciation not just of the past but of the currently developing worlds of knowledge in which researchers find themselves engaged.[1]

Researchers in or out of the universities

Contemporary accounts commonly reflect the belief that the university has, at least till very recently, been the prime centre for knowledge generation and recognition: 'the institution most closely aligned with

knowledge production processes in the history of the West' (Fuller 2000: 47), '*the* key knowledge-producing institution' (Scott 2000: 191). There are constant references to 'the traditional near monopoly of the university over ownership and transmission of established knowledge, and validation of new knowledge' (McNair 1997: 36), sometimes, as here, with some concern that this may now be under threat. 'Research' belongs prototypically to those practising in university settings.

In Britain today – though the general trend is more widespread – this conviction is reinforced by government-sponsored Research Assessment Exercises that rank university departments by their research: massive and highly publicised competitions with dramatic financial and reputational gains for the winners. Universities accordingly attach high priority to enhancing and advertising their research and, as Frank Webster comments in his chapter,[2] academics are happy to be labelled participants in these 'powerhouses of research'. It is easy to go on to assume that *all* research happens within the portals of universities. Thus a recent influential review, after a brief bow to 'other sources' of funding, is categorical that assessments of research in universities and colleges provide 'comprehensive and definitive information on the quality of UK research in each subject area' and capture the 'UK research system' (Roberts 2003: 2, 5).

But researching is *not* confined to universities and colleges, industrial firms, public and private research institutes, government, consultancies, charities, think tanks, Royal Commissions, survey organisations, newspapers, broadcasting organisations, activist bodies and much else – all are settings in which research takes place. And over and above such evident examples – though these too are often overlooked – lies a host of even less noticed researchers working on a vast span of topics, from local history to entomology and microscopy, cartography to seismology or church law, theology to contemporary history and current affairs. Some are indubitably more organised, competent or systematic than others, but all are to one degree or another creative participants in the world of knowledge.

The chapters here give some flavour of these variegated researchers. We encounter the remarkable country gentlemen in seventeenth-century Lancashire villages who laid the foundations of British astronomical research; the Victorian amateur botanists who so largely worked out the national distribution of Britain's wild plants and whose counterparts today carry out massive periodic flora stocktakings; missionary researchers on languages or meteorology; contributors to the Mass-Observation archive; and the extensive body of researchers beyond and across

university walls in ornithology, archaeology and family history. And then, besides the industrial firms and contemporary think tanks, there are the emergent processes of knowledge production and dissemination through the Internet.

The examples here are by no means unique. This book's coverage flows together with transdisciplinary studies of informal and grassroots practices, of peripheries as well as centres, and of the cultural contexts in which knowledge has been created and formulated. Some of the complexities behind the once-simple story of the depersonalised advance of modern science are being appreciated through widely read studies of individuals and groups outside the official establishments of the time, like Mary Somerville, the nineteenth-century scientist who was barred from education and learned libraries (Chapman 2004), the scientific contributions of the eighteenth-century Lunar Society of Birmingham with its dissenting and artisan networks (Uglow 2002), or the myriad dispersed contributors to the Oxford English Dictionary (Winchester 1998, 2003).

Nor are independent researchers just something of the past. Amateur research in astronomy did not end with the seventeenth-century scientists here. In the nineteenth century the amateurs were sometimes ahead, unfettered by curriculum constrictions or state patronage (Chapman 1998), and today thousands of skilled amateur astronomers work in global research networks in partnership with professionals (Ferris 2002, Percy and Wilson 2000). Archaeology, philology, folklore, geography, literary analysis, biography, language studies, theology, philosophy, analyses of space-probe data – all have been carried forward by independent scholars. Non-professionals produce historical studies, family historians crowd local record offices and expertly utilise the web, 'public history' is developed by and for community participants. Amateurs and professionals have long interacted in the field sciences like (among others) agronomy, biogeography, botany, ethology, forestry, genetics, geology, geophysics, oceanography, palaeontology, public health and zoology; in the field amateur-professional distinctions remain blurred but if anything the amateur sphere may be expanding (Kuklick and Kohler 1996: 5). Laboratory-based 'big science' is nowadays less accessible, though even in the physical sciences amateurs still develop innovative projects and instrumentation (documented for example in the 'Amateur Scientist' columns in *Scientific American*) and of course the foundational theoreticians have not themselves always been professional scientists. In recent years the 'open-source' software system Linux was famously forged collaboratively by

thousands of fellow enthusiasts just as teams of volunteers have now created the Firefox browser, while the bloggers described by Mark Brady actively build and debate knowledge on the web. Indeed, far from being outdated, a recent think tank report heralds a reversal of the twentieth-century shift to professionals by a new breed of 'pro-am' enthusiasts (Leadbeater and Miller 2004).

Non-university researchers do not form a clearly defined or uniform sector. They are diverse in both interests and practices. Some have little directly to do with universities or shade into individual hobbyists who might better be termed occasional dabblers rather than researchers. Others (like several of the authors here) merge into the professional academic researchers, sometimes moving in or out of universities; or, while opting against a university career, still make serious intellectual work integral to their lives. A number of special-interest societies and publications straddle the university walls. The boundaries between 'amateur' and 'professional', 'independent' and 'institutional', 'work' and 'leisure', 'production' and 'consumption' are fluid and overlapping – oppositions which are anyway becoming less identifiable in the world of today.

Despite the lack of definitive demarcation, the broad spectrum of researchers operating more, or less, outside the university is clearly substantial. Just from the fields considered here we could note not only the proliferation of natural history clubs in Victorian Britain but the five to ten thousand individuals still engaged in active botanical research today (Allen); the tens of thousands of amateur ornithologists (Greenwood); the 4500 (at least) independent archaeologists in contemporary Britain (Hunt; Leadbetter and Miller 2004: 28); the 270 historians, almost all 'outside the walls', whose research informed a classic population history of England in 1981 (Drake); the substantial recent publications in community history (McKay); or the 387,000 active family historians (estimate by Family Records Centre, London – Leadbetter and Miller 2004: 28) complemented by the 210 societies within the UK Federation of Family History Societies. In some countries there are now generic associations for independent scholars[3] to supplement the plethora of special-interest associations. We must add too the uncounted multitude working through the web or searching in domestic settings where 'in pure head-count terms most "research" gets done' (Anderson).

These researchers are largely financed by themselves. In institutions like industrial firms or research institutes researchers may be formally employed, and some charities and national societies are prepared to make (small) grants towards independent scholars' expenses (the Linnean

Society even has a fund reserved for amateurs). But in general it is remarkable how many draw on their own resources: they work for love, not pay. The Linux developers were not unique in expending 'money and effort to be able to contribute to the advancement of their . . . project' (Tuomi 2002: 1), for outside researchers commonly contribute not only time – invaluable resource – but substantial amounts on equipment, books, journals, travel, communication, library fees, and subscriptions.

These researcher-participants in knowledge, unsupported as most of them are by government finance or university backing, represent a substantial knowledge resource, part of the nation's – and the world's – intellectual capital. The view of research as essentially a creature of the universities is notably a partial one.

Capturing knowledge and its creators

This absence of non-university researchers from current accounts of knowledge production is startling – but not altogether surprising. Conceptualisations of knowledge and its creators have always been formulated through specific terminologies, intertwined often enough with categorisations of inclusion and exclusion.

Thus as the authors of the tellingly titled *The Invisible Industrialist* point out, the extensive production of scientific knowledge in industrial settings is effectively obscured by the dominant picture of knowledge-transfer from 'research settings to production sites', never the other way round (Gaudillière and Löwy 1998: 5). Similarly business is projected as the recipient of the 'knowledge and expertise that universities and colleges create and accumulate' (HEFCE 2004: 1, 2). Practitioner knowledge is brushed aside. And yet the application of an idea in a new context, invented and developed in use, can be an act of knowledge creation 'perhaps more original than one of the more derivative types of academic paper' (Eraut 1994: 54).

> The literature on knowledge creation and development is organized around assumptions . . . [in which] the principal actors are the [academic] research community, whose perspective dominates most of this literature, and the governments upon whose sponsorship they depend. By implication, other professionals are not only excluded from the knowledge creation process but assumed to suffer from knowledge deficiency . . . The situation looks very different if we move the academic researcher from the centre of the universe. (Eraut 1994: 54)

The word 'amateur' also carries connotations. Once a term of approbation, it is now often used – especially in circles where amateur research is unfamiliar – to banish certain people or activities as untrained, low level, marginal and unvalidated or, more radically, to blot them from view. And when the definition of reality is still so often tied to 'professional' status or, alternatively, to public funding or commercial success, the (more, or less) amateur practitioners disappear. Those directly involved of course know well of their existence and achievements. But they seldom enter official statistics and even social scientists have in the past often disregarded them.

And yet, harder to capture than the full-time, paid and publicly documented practitioners, amateur and independent activities may now be attracting more interest. Historians have always paid them some attention, but perhaps increasingly so now with the more social approach to the history of science and greater visibility for the field sciences. Studies of popular science are challenging the model of downwards dissemination to passive receivers to reveal the participation of co-creating audiences and interpretations (Forgan; also Secord 1996, Gieryn 1999). And even students of the present are starting to be more alert to the contemporary significance and prospects of amateurs (Booth 1999, Ferris 2002, Leadbeater and Miller 2004, Percy and Wilson 2000, Stebbins 1992; 2001). 'Amateur science – strong tradition, bright future' is the apt title of Forrest Mims' article in *Science* on the far-ranging and substantial contributions of those who do science 'because it's what they love' (1999: 55).

Using varying terminologies (for given the fluid boundaries none are quite satisfactory) these more recent analyses have helped to illuminate certain features of this complex range of activity. Ronald and Beatrice Gross list the characteristics of 'independent scholars' as 'enthusiasm, energy, zest, and *love* for the subject they study' (1983: 23) while, more recently, the 'pro-am' is someone who 'pursues an activity as an amateur, mainly for the love of it, but sets a professional standard' (Leadbeater and Miller 2004). The 'hacker', in its original rather than derogatory sense, is 'an expert or enthusiast of any kind', motivated not by money but 'a desire to create something that one's peer community would find valuable' (Himanen 2001: x). Robert Stebbins (1992, 2001) uses 'serious leisure' in his classic studies of committed amateurs across many fields, including science. He portrays their perseverance ('working at it' despite setbacks); endurance over time (not just an evanescent occurrence); personal effort based on specially acquired knowledge, training or skills; personal experience such as self-actualisation or

belongingness; a unique ethos within which they act; and strong identification with their chosen pursuit (Stebbins 1992: 6ff.). Such characterisations apply well to the independent researchers considered in this book, practising, as we have seen, in substantial numbers – yet there are still many circles in which they remain invisible.

Marginalising certain activities or people, or defining them out of existence (and reward systems) are well attested social processes. We might prefer not to admit it, but they demonstrably happen with knowledge production too. Though with varying settings and boundaries – universities have not always been at the centre – exclusionary definitions and practices have always been part of the worlds of learning. Interacting with both conventional wisdom and the ideologies and perhaps self-interests of currently powerful protagonists, some topics, activities or practitioners are classed as somehow counting, others not. The Enlightenment focus on decontextualised knowledge, rationality and, secular science is one powerful example, turning attention away from people and practices that do not fit the paradigm. It is certainly extensively challenged by many cases here. Livingstone for example is explicit that if missionary science, with its religious commitment and messy politics, runs counter to the established scientific story 'then it is time to revise our notion of what constitutes scientific knowledge'.

That particular account was never wholly encompassing however, and the point here is the more general one that the demarcations and practices of knowledge are always liable to change and diversity. Feminist, cross-cultural, and postmodernist perspectives and 'cultural' approaches to the history of science, for example, have been reappraising the definitions of knowledge and research. Social researchers have reframed their 'objects' of study as 'colleagues' and 'co-researchers' or highlighted the dialogic – the interactive and emergent – dimensions of knowing. 'Mode 2 knowledge' is now on the agenda too: applications-based knowledge produced by short-lived, relatively unstructured transdisciplinary teams on short-term problems, arguably now supplanting the discipline-based 'Mode 1 knowledge' (Gibbons *et al*. 1994, Nowotny *et al*. 2001). Some aspects of this (somewhat generalised) thesis remain controversial but it brings out yet again that definitions and practices of knowledge are heterogeneous, set by human formulation rather than some eternal natural order. As emphasised at many points here, especially in the two concluding chapters, we have to entertain the notion of a plurality of co-creating participants and knowledges, 'local', situated and diversely defined rather than always monolithic or officially sanctioned – and open, furthermore, to change and dispute.

Neither 'knowledge' nor 'research' are neutral terms. 'Research' sometimes comes in the open-ended sense of any active, careful and systematic process of inquiry and its outcomes. But it can also be a highly loaded word. It is used rhetorically to justify think tank reports (Cummings) or to include or exclude particular activities, as in the changing approaches to qualitative methodologies charted in Sheridan's chapter. Like 'knowledge', it can be wielded to convey value-laden claims about particular forms of inquiry and who should control them. One striking example is the current drive across British universities to re-define 'research' by restricting it to activities likely to earn high gradings in official Research Assessments, thus in effect disqualifying everything else as not 'really' research nor, by implication, knowledge. Earlier delimitations are neatly encapsulated in the rhyme about the famous head of Oxford's Balliol College:

> I'm the Master, Benjamin Jowett
> There's no knowledge but I know it.
> I am Master of this college
> What I don't know isn't knowledge
>
> (as circulating in popular tradition 1960s (originated 1870s)).

Changing definitions of what counts as knowledge and who has the right to capture it are nothing new. New institutions, methodologies, and personnel supplant earlier ones. Disciplines and subjects are replaced by upstarts from unexpected places, move in or out of the walls, straddle them or shift their boundaries. Family and community history are now mostly outside universities but occasionally included in (Drake, McKay) archaeology once outside but now partially within, while metal detectorists are being drawn, amidst controversy, into archaeological research, the boundaries widened to encompass their data (Hunt). New instruments and technologies too have played a part in changing conceptualisations and practices of knowledge. The data revealed by newly invented telescopes and precision angle-measuring instruments went along with radically new concepts of the power of sense-knowledge (Chapman), binoculars underpinned greater openings for amateurs in ornithological fieldwork (Greenwood). Portable cassette-recorders enabled wider participation in life history, folklore, and oral history and authorised their products, just as inexpensive telescopes have opened far-reaching astronomical observation to those outside 'big science' laboratories. The gradual supplanting of Latin as

the language of knowledge similarly had implications for defining both knowledge and who could participate (some might adduce a modern-day parallel in the excluding 'dense and jargon-soaked' language of some academic writing today (Webster), 'turning inward', as Russell Jacoby has it, 'to fetishize their profundity' (2000: xxi)). There is also the salient example of hardcopy print, arguably *the* dominant technology in recent centuries for capturing knowledge and the main currency of accredited university research. As William Davies among others asks, might the definitions and practices of knowledge be in any way reshaped in the technologies now deployed by many independent researchers – multimodal as well as verbal, electronic or broadcast as well as print?

It is worth recalling that it has often been those outside established institutions that have taken the lead in exploiting new technologies, methods or fields of study. From 'science' in the nineteenth century, excluded as not up to the mental discipline of classics or mathematics, to more recently recognised fields like black studies, astrophysics, African literature, oral history, dance studies, ethnomusicology, women's studies, contemporary history, popular music and much else, the founding scholars commonly started outside established curricula and without official academic recognition. Amateurs and outsiders could take risks and venture beyond disciplinary regimes and regurgitations. As Peter Burke notes for earlier centuries, the social history of knowledge

> is a history of the interaction between outsiders and establishments, between amateurs and professionals, intellectual entrepreneurs and intellectual rentiers. There is also interplay between innovation and routine, fluidity and fixity, 'thawing and freezing trends', official and unofficial knowledge. On one side we see open circles or networks, on the other institutions with fixed membership and officially defined spheres of competence, constructing and maintaining barriers which separate them from their rivals and also from laymen and laywomen. (Burke 2000: 51–2)

Does this have relevance for today? Certainly some already argue that the best work in the humanities now comes from beyond the universities (Harvey 2002) with the most creative research perhaps happening outside academe

> in contexts of applications (and implications), in public places where the heterogeneity of knowledge production is exposed rather than in

> autonomous spaces from which all forms of contestation that do not conform to scholarly and scientific practice are excluded. (Peter Scott in Warner and Palfreyman 2001: 200, also Barnett, this volume)

Whatever the judgements on specific examples, there are clearly grounds for looking beyond the defensive walls to the possibly more open and innovatory pursuits outside.

Non-university researchers also play a part in the complementary activity of consolidating established fields and filling gaps or uncertainties in the current corpus of knowledge. Researchers do not have to produce revolutionary new advances to yet contribute to knowledge and both innovative iconoclasm and painstaking documentation within existing frames are to be found both inside and beyond academe. As Burke continues (2000: 52), 'The reader is probably tempted to side with the innovators against the supporters of tradition, but it is likely that in the long history of knowledge the two groups have played equally important roles.'

The outside researchers, no less than their more visible counterparts within the universities, actively participate in both these groups (perhaps more accurately, both these overlapping dimensions). Capturing the full world of knowledge and its creators is only feasible by going beyond partial and restrictive definitions, however powerful these may be in some circles, and including the extra-university researchers within the picture.

The practice and recognition of research

Outside no less than within universities, researching does not happen of itself nor take place in a vacuum. Individuals play their part, indubitably – it is striking how many named men and women appear in these pages. But here as elsewhere the researchers are also commonly linked into wider networks and collaborations.

One recurrent theme is of being engaged in a shared and worthwhile endeavour. It is partly of course the sheer love of the chase – but also something more. Amateur botanists undertake fieldwork 'with some manifestly useful end' (Allen), community historians conduct 'a serious pursuit whose outcome might be useful to others' (McKay). The hackers and software enthusiasts, for all their fun and freedom, are fired by building a larger system that goes beyond once-off pleasure. Even the Mass-Observation panellists who never met face-to-face felt part of a collective endeavour, 'a sense that they belonged to a larger community of people like themselves whose reports would be, cumulatively, more

significant than the contribution of any single individual' (Sheridan) – not a trivial hobby for personal enjoyment but a collaborative and serious enterprise.

Sharing the research and its outcomes is another thread. Communication crops up continually, raising the familiar question of how far a lone uncommunicative investigator, inside *or* outside academe, is fully a creator of knowledge. Most researchers here look to some wider constituency for interchanging and distributing knowledge – witness the recurrent mention of lectures, letters, personal contacts, printed books and articles, electronic posting, discussions on the web . . . . They interact within known networks and conventions, and envisage their work as of use to others beyond the present moment or locality. Missionaries created dictionaries and meteorological datasets, botanists their pressed plant collections, family and community historians their transcriptions and archives – building blocks for future researchers.

The communication of knowledge raises the issue of its validation. Many of these researchers are in one sense responsible primarily to themselves – not accountable to employers or government regulators but free to follow their own enthusiasms where they will. Nor do they necessarily feel any need for explicit external authorisation. But in the apparent absence of university endorsement, the question seems to arise of the credibility of their work.

Contrary perhaps to expectation, the knowledge processes here are far from merely personal and idiosyncratic. They are recognised in variegated and often multiple and overlapping ways, it is true, with a range of (often implicit) criteria and expectations. But familiar themes in fact emerge – appropriate training, making public recognition through significant others, and a degree of shared values.

Qualifying oneself to carry out the task competently is one dimension. Many of these researchers have completed undergraduate or graduate degrees, later taking up research in the same or (remarkably often) another field; from some viewpoints at least they and their research are legitimised by their earlier passage through university-endorsed channels. Other training is less paper-accredited, though not for that reason unimportant. It can be self-learning and practical experience, sometimes building up skills and knowledge over lengthy periods, like the ornithological field skills that, Greenwood notes, 'come through years of experience rather than a university degree'. There are some more formalised (not necessarily certificated) routes. In family and community history for example there is a flourishing tradition of freelance courses and advice packs, and, as in many popular research fields, a plenitude

of readily available and avidly read specialist magazines packed with research hints and reports.

Here as elsewhere some knowledge is restricted, but in general sharing and making public function as one form of endorsement. Peer-to-peer communicating is a recurrent theme, at least in the sense of interchanging, trying out and being recognised by others. The 'publics' and audiences looked to are diverse: sometimes large or actively participant but sometimes more symbolic than actual, perhaps in practice quite small self-referencing in-groups who nevertheless provide a stamp of authority. Making public through print is frequently mentioned, seemingly a mark of quality assurance whether or not the published products are actually much read. But this pre-screened hard-copy route, guarded by authorising gatekeepers and of key validating significance within academe, is also sometimes side-stepped by *post*-publication assessment and dialectic as authors expose their products to critiques and interchanges on the Internet (see Part III). Are we, as Barnett asks, on the verge of a new kind of public and more dialogic space, 'building knowledge through debate' as Melville has it?

The institutions or groupings to which these researchers in some sense look for endorsement are multiple. Sometimes they do indeed include universities, though usually as just as one among several sources. The validation of inter-war industrial research came overlappingly via government, commercial interests, universities, and professional associations like the Society of Chemical Industry. For archaeologists it has been varying combinations of national and local associations, government, commercial interests, and universities. Part II refers to several 'across the walls' cases where authority partly comes from university involvement though *also* perhaps from the aims of particular organisations, individuals, and groups.

Universities are not always in the picture however, certainly not at its centre. Professional and national associations often play a part, not least through the expectations by which researchers judge themselves and others. Relevant too are the less formalised but nonetheless influential networks of local societies with meetings, co-researchers, publications, and (nowadays) websites. Validation can also come from personal correspondence and exchanges (communication again…), unofficial but effective ways of gaining both feedback and recognition from fellow practitioners even if the precise boundaries or authority of the relevant reference group(s) are far from explicit.

The criteria and frames of reference are again often implicit rather than verbalised. Particular fields develop shared – if sometimes also

disputed or shifting – standards and expectations about the accreditation brought by, for example, particular people, locations, topics, methodologies, outcomes, or shared experiences. The perceived authority of think tank reports for example partly lies in their effects on public policy and visibility in the media (Cummings), for missionary science in its indisputable field location (Livingstone), for professional practice in how far it 'works'; while for industrial firms 'ultimately, if a piece of research gave rise to commercially beneficial results, what further validation was required?' (Vernon). On the web endorsement can come among other things personal reputation (Davies) or 'popularity' metrics which count links to and from particular blogs (Brady); or it may be bound into a self-generating culture like the *openDemocracy* contributors' 'mutual respect, inquiry and willingness to change according to new information . . . self-regulat and accountability without the need for heavy-handed policing' (Melville). For family and community historians the pursuit in part justifies itself, as a personal sphere where the researcher has a *right* to go – highly particularistic, perhaps, yet to the participants something that gives their research validity.

Certain values are to an extent common across these otherwise varying fields. Like their university counterparts, these researchers are mostly serious about their pursuit, putting in effort and resources to attain their own, often demanding, standards. Seriousness, enthusiasm, care, a wish to 'get it right', sharing with significant others – all these recur, overlapping in many ways with Barnett's proposed knowledge ethic for today, and in a sense their own self-accreditation. Here as elsewhere knowledge-validation turns out a complex affair, relating not only to the processes, personnel, background, or locales taken as the justified ones for the 'creation' of knowledge but also for its recognition, dissemination, outlets, accountability or the accepted practices, aims, and criteria governing its valid capture and control. Multiple endorsement sources are often in play, sometimes contradictory or shifting; and even within relatively agreed systems some researchers are less cautious or less acquiescent than others in observing the (more or less) shared norms. But however informal, multidimensional or at times contentious, it would not be correct to say that processes of validation are absent among researchers outside academe.

Perhaps there is after all not such a clear distinction from the validating processes in university settings. It is true that universities have been widely seen as *the* authorising agent for knowledge formation (though possibly more for curricula and educational accreditation than research?) and the norm against which outsiders should be judged. But

university practices around endorsement are diverse too, similarly shaped through multiple and sometimes disputed overlapping interests: governmental finance and recognition, for example, disciplinary boundaries, commercial payoffs or the controls and conventions of particularistic reference groups; sometimes the ideas of 'public scholarship' or 'community-based research' creep in too, with researchers accountable in some way to a 'public' other than their academic peers. Inside as without academe scrutiny by peers, citation counts or 'metrics' – much spoken of in university contexts – can be bound into circles of self-referencing insider networks and expectations, of reputations and locations, and of selective knowledges and personnel (see Fuller 1997, 2002: 232ff.) Validation through making public also looks more controversial now that hard-print publication, that privileged route for academic knowledge endorsement, is sometimes bypassed by post-publication assessment on the web.

Ultimately there seems no absolute divide between knowledge creation outside and inside the universities. Variegated as both are, they overlap in personnel, fields, ethics, processes, and in the multiplicity of authority sources to which they appeal, the divergences and overlaps shifting in different periods and settings. It would be misplaced either to denigrate the assessment procedures of university-based research or to exaggerate those of independent scholars – they are highly diverse after all, some certainly less careful or committed than others. But it is emphatically not a case of uncontrolled, haphazard and irresponsible investigators outside universities as against accountable, organised and uniformly high-minded researchers inside.

Participating in the world of knowledge today

Many voices suggest we are living in unparalleled times. Some portray certainty dissolved into fluidity, with knowledge everywhere contested and fragmented and the once-legitimising university walls crumbling to an unprecedented host of knowledge-competitors. Others salute the new technology-based knowledge economy with its ever-increasing need for yet more authoritative knowledge-production.

Both positions overlook precisely the kinds of researchers considered here and the long-playing contests and pluralities of knowledges of the past not just the present. There have doubtless always been researchers outside the elite-controlled domains of knowledge and, as Webster aptly reminds us, research has not in fact always or everywhere been an important function of universities. To fully understand today's knowledge

society we must include in the frame the wider research world which has in one way or another always existed and still continues.

This larger view is in fact all the more important in the situation of today. Not only do people live longer active lives, often with resources for chosen pursuits alongside or following paid jobs, but increasing numbers are completing university studies and gaining research experience through projects and independent work at school as well as tertiary level. And just as 'open learning' successfully challenged the model that once restricted higher education to an elite 'within the walls', so a parallel recognition of 'open research' may yet extend 'lifelong learning' into a possibility of lifelong 'researching'. Most 'learning age' analysts talk in terms of 'learning' but a few now bring out its 'inquiry' dimensions and in doing so challenge the mystique and exclusivity associated with 'research' (Bligh *et al*. 1999: 90, Jarvis 2001, Wells 2002). This may well be reinforced by the developing technological opportunities for public and private collaboration on the web, even perhaps for new involvements in big-science projects through web interactions or interlinked computing. In short, there are growing numbers of people with the opportunities, experience, and confidence to actively participate in knowledge through their own researching.

This is not a plea for governmental support or university incorporation. As a productive and vigorous sector of intellectual life these researchers do not need patronising exhortations to 'participate' – they already do so. Their enthusiasm and dedication will continue, self-motivated. But one should not romanticise the downsides or forget that some regimes are less open than others to their participation. The problems earlier identified by US independent scholars have not gone away: of access to libraries and archives (opening hours, not just cost), rejection by in-groups controlling publication or grants, lack of colleagueship and support, and a sense of exclusion, missing the recognition they might have had within a university (Gross and Gross 1983: esp. 33ff.). Now too non-university researchers can be frustrated – at the least put to cost and trouble – in getting access to the kinds of funding, libraries, labs, equipment, networking or even in some cases electronic databases that come more freely to those within the university sector. Some independent scholars' associations have attempted to develop routes through such barriers, and individuals found backstairs ways into university networks and resources; but others accept it in silence, do not even consider applying for grants that could be open to them, or simply lack the expectation of more open opportunities. The free pursuit of knowledge celebrated in many university visions does not always extend to those who would participate from beyond the walls.

The starting point must surely be a greater recognition of their existence. Here is a substantial, vibrant and largely self-financed sector of the knowledge society, uneven and sometimes wild no doubt, but with a major role in both extending and consolidating our frames of knowledge. And if indeed there is, as Barnett and others have suggested, a growing democratisation of knowledge production then this widening spread of voices should be heard. Some policy-makers and commentators would fence out their contribution and delimit 'research' by corralling it into ever more restrictive, disciplinary and centrally controlled pens, perhaps closing doors that were once open. Others may yet warm to a view formulated some twenty years back but surely still valid:

> If the encouragement of intellectual diversity and enterprise are central to the goals of a cultural democracy, then those whose interests lie outside current academic norms play an essential role.... Independent scholars, their contribution, and the organizations they represent are a necessary enlargement of the world of learning. (Gross and Gross 1983: 26)

Universities will remain, and rightly so, as powerful nodes for the generation, accumulation and evaluation of knowledge. But to look just to them is to miss the full intellectual capital of which they are only part – the immense world of active players beyond the walls not just in industry, commerce, government or think tanks, but in homes, in charities, in associations large and small, in informal groupings, and networks, and through the whole complex spectrum of amateur and independent researchers. As Webster concludes, universities 'have a major part to play now and in the future. In fulfilling that role, however, they have no need to make claims either that research within the walls is their pre-eminent contribution or that research outside the walls is of a lesser order.'

This is reinforced in Barnett's final plea for an ethic of knowledge more suitable for today: one not for policing boundaries but built around such concepts as openness, accessibility, diversity and dialogue, of hospitality to other presences and voices; an ethic that would 'help unify the knowing efforts and the forms of inquiry within and beyond the walls of the academy'. Only with this larger perspective can we gain a realistic insight into the richnesses and the challenges of knowledge creation today, and the notable ways in which those beyond as well as within the universities do more than just 'participate' in the world of

knowledge – they take an active, serious and enthusiastic part in creating and sustaining it.

Notes

1. The related literature is clearly too vast to even start to reference here but recent analyses I have found particularly helpful include Barth 2002, Brown and Duguid 2002, Burke 2000, Delanty 2001, Fuller 1997, 2000, 2002, McCarthy 1996, Nowotny *et al*. 2001, Scott 2000, 2004, Strand *et al*. 2003, Thomas 2002, Swidler and Arditi 1994, Webster 2002, Webster *et al*. 2004, Whitley 2000.
2. Otherwise unattributed references are to chapters in this book.
3. US National Coalition of Independent Scholars (www.ncis.org), Independent Scholars Association of Australia (www.independentscholars.asn.au) and the fledgling British Association for Independent Research. (www.association forndependentresearch.org); also Society for Amateur Scientists (www.sas.org).

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